PATENT
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07/03/2007 /Pamela Gerik/
Date Pamela Gerik

APPEAL BRIEF

Dear Sir:

Further to the Notice of Appeal filed herewith in a separate paper, Appellant presents this Appeal Brief. The Notice of Appeal was filed following receipt of a final Office Action mailed April 11, 2007. Appellant hereby appeals to the Board of Patent Appeals and Interferences the rejections of claims 21-36, 38, 39, and 41.

I. REAL PARTY IN INTEREST

The parties in real interest are the inventors, Charles D. Huston and Darryl J. Cornish.

II. RELATED APPEALS AND INTERFERENCES

Prior appeals may have a bearing on the Board's decision in this appeal. The present application is a continuation of Serial Number which 08/925,293 which was decided by this Board in Appeal No. 2000-0947. Appeal No. 2000-0947 was appealed to the Court of Appeals for the Federal Circuit 02-1048 decided October 17, 2002. Additionally, Serial Number 09/454,813 was decided by the Board January 24, 2006 in Appeal No. 2005-2769.

III. STATUS OF THE CLAIMS

Claims 21-36, 38, 39 and 41 are pending and stand rejected. Claims 1-20, 37 and 40 are canceled. Claims 21-36, 38, 39 and 41 are the subject of this appeal.

IV. STATUS OF AMENDMENTS

No amendments to the claims were filed subsequent to their final rejection. Therefore, the Appendix hereto reflects the current state of the claims. (Applicants reserve the right to continue prosecution after the Board's decision and specifically notes several typographical errors.)

V. SUMMARY OF CLAIMED SUBJECT MATTER

Broadly, the present subject matter relates to a system and method for displaying advertising messages and other information to a golfer on a golf course in a non-intrusive, non-distracting, tasteful manner and time. The advertising messages are displayed based on the position of a golfer on a golf course using a Global Positioning Satellite system ("GPS") and comparing this GPS position with a database of message locations. The parent application, SN 07/804,368 now U.S. Pat. No. 5,364,093, described an invention for determining distances on a golf course using the Global Positioning Satellite system (GPS), e.g. the distance from the ball to the cup. The present application refines how specific advertising information is communicated to the golfer based on the golfer's GPS position.

Three independent claims are presented on appeal, claims 21, 32, and 41. The references herein are exemplary only and often refer to the preferred embodiment, and are not intended to limit the scope of the claims.

Claim 21. Independent claim 21 recites a method for displaying an advertising message, (Figs. 5-6, display 121) to a golfer on a golf course using a global positioning satellite system (Figs. 5, 6, and 11; Specification -- p. 5, line 1 - p. 6, line 2; p. 12, lines 12-40). As described, a

GPS receiver, (Figs. 2, 4 remote unit 10), is positioned on the golf course and a present position is determined. An advertising location is stored and compared to the present position of the GPS receiver, (Fig. 2, remote unit 10; Specification -- p. 12, line 35 - p. 13, line 4; p. 13, lines 11-17). If the present position is an advertising location, the advertising message is displayed to the golfer (Figs. 5-6).

Claim 32. Independent claim 32 recites an apparatus (Figs. 2, 4 remote unit 10) which displays a message (such as display 121, Fig. 5; Fig. 6), to a golfer using a GPS system (Figs. 2, 4, and 5; Specification -- p. 5, line 1 - p. 6, line 2; p. 12, lines 12-40). The GPS receiver (Figs. 2, 4 remote unit 10) receives signals indicating an apparent position of receiver 10 on a golf course (Fig. 2; Specification -- p. 10, line 5 - p. 11, line 3). A processor (Fig. 2, CPU 24) determines the position of receiver 10 (Fig. 2; Specification -- p. 10, line 33 - p. 11, line 4). A memory, e.g., storage 25 stores a set of message locations (Fig. 2; Specification -- p. 10, line 33 - p. 11, line 4; p. 12, line 12 - p. 13, line 28). The processor 24 compares the position of receiver 10 with a message location (Fig. 2; Specification -- p. 12, line 12 - p. 13, line 28). A display 121 displays the message to the golfer (Fig. 5).

Claim 41. Independent claim 41 recites a method for displaying advertising information to a golfer on a golf course using a GPS system (Figs. 5-6; Specification -- p. 5, line 1 - p. 6, line 2; p. 12, line 12 - p. 13, line 28). As described, a GPS receiver (Fig. 2, receiver 10) is positioned on a golf course and a present position of receiver 10 is determined (Fig. 2; Specification -- p. 10, line 33 - p. 11, line 3). Advertising information associated with one or more locations are stored in a memory, e.g., storage 25 (Specification -- p. 12, line 35 - p. 13, line 4; Fig. 2). The advertising information locations are compared with the position of receiver 10 (Fig. 2). If the position of the receiver is at an information location, the information is displayed (Fig. 5; Specification -- p. 12, line 12 - p. 13, line 28).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 21-33, 35, 36, 38, 39 and 41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,524,081 to Paul (hereinafter "Paul") in view of U.S. Patent No. 5,326,095 to Dudley (hereinafter "Dudley"). Claim 34 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Paul, Dudley, and WO 88/00487 to Bonito et al. (hereinafter "Bonito").

2. Claims 21-36, 38, 39 and 41 were rejected on the ground of nonstatutory obviousness-type double patenting over claims 1-26 of U.S. Pat. No. 5,364,093 in view of Paul or Dudley.

VII. ARGUMENT

The contentions of the Appellant with respect to the ground of rejection presented for review, and the basis thereof, with citations of the statutes, regulations, authorities, and parts of the record relied upon are presented herein for consideration by the Board. Details as to why the rejections cannot be sustained are set forth below.

I. Rejection of Pending Claims under § 103(a)

Paul teaches that information can be sent by radio to golfers and that the types of information that can be broadcast include advertising, leader board updates, weather alerts etc. (Col. 8 lines 18-20). Dudley teaches that information can be conveyed to a golfer when the golfer is in proximity to a buried tag on the golf course. Such information can include range information, such as distance to the green or a hazard (col. 4, lines 10-13) or advertising information (col. 7, lines 13-16). Appellant does not believe that one of ordinary skill would combine the teachings of Paul and Dudley because, *inter alia*, such combination would change the operating principle of both references. Certainly, no reason for the combination is explicit in the record. Even if the combination is appropriate, the combination does not meet the claim limitations.

The subject matter of this application has a tortured history and, not surprisingly, unusual facts. The claims now presented on appeal are different than prior appeals 2005-2769 and 2000-0947 and the primary references are different. Therefore, this appeal merits independent consideration. However, because prior appeal 2000-0947 and the attendant Federal Circuit decision 02-1048 may be relevant, they are included herewith in the Related Proceedings Appendix.

A. The obviousness rejection based on the hypothetical combination of Paul and Dudley

The prior art rejections in the final Office Action were under 35 U.S.C. § 103(a) as being unpatentable over a combination of Paul in view of U.S. Patent No. 5,326,095 to Dudley (hereinafter "Dudley"). The factual inquiries set forth in *Graham v. John Deere Co.,* 383 U.S. 1, 148 U.S.P.Q. 459 (1966), establish the background for determining obviousness under 35 U.S.C. §103, see also, MPEP 706 and 2141. The primary considerations are: the scope and content of the prior art; the differences between the prior art and the claims in issue; the level of ordinary skill in the pertinent art; and secondary considerations, such as commercial success, long felt and unresolved needs, failures of others, teaching away, etc. See also, *KSR Int'l. Co., v. Teleflex, Inc.,* No. 04-1350 (U.S. Apr. 30, 2007). While the *KSR* court rejected the rigid application of the "teaching, suggestion, motivation" test, the reason a person of ordinary skill in the relevant field would combine prior elements must be made explicit. *KSR*, slip op. at 14.

1. Scope and Content of the Prior Art

Turning to the scope and content of the prior art, Paul describes that information, including advertising, can be radio broadcast to golfers on a golf course. Paul mentions the ability to "broadcast" advertising, leader board updates, weather alerts etc. (Col. 8 lines 18-20). Nothing else in Paul relates to advertising. Paul does not teach the claim limitations nor suggest a need for performing location based advertising. The Board's reading of Paul is essentially correct in the prior appeal (2000-0947). The Board states that "in addition to broadcasting the differential corrections in that it provides a mechanism for broadcasting messages to all carts or any specific cart. The broadcasts can include notices from the clubhouse, weather alerts,

advertising, leader board updates, etc." No reference can be found in Paul (by the Board or Applicant) that suggests advertising to a golfer based on a GPS-determined position on a golf course, where the golfer's position is a stored advertising location.

Dudley is directed to a system for providing yardage and position information at various points on a golf course hole based on proximity to a buried tag. In one embodiment, radio frequency (RF) identification tags are buried beneath the cart path on the golf hole at regularly spaced intervals (col. 4, lines 1-5). Alternatively, the tags may be buried in a two-dimensional matrix so that readings are available at many more points and so that the cart does not have to remain on the cart path to receive information from the tag (col. 4, lines 18-26). As a reading system passes over a tag, the reading system sends an interrogation signal that causes the tag to output its internally stored code (col. 4, lines 5-9). This code may be utilized by the reading system to determine range information, such as distance to the green or a hazard (col. 4, lines 10-13). In addition, the information to be output for each received tag code may be determined by a look-up table stored in the RAM of the reading system and correlated detailed sets of stored information (col. 6, lines 46-50; col. 6, line 62 to col. 7, line 2). This look-up table may include advertising messages that are activated by particular tags (col. 7, lines 13-16).

Dudley does describe a golf information system for conveying information to a golfer. Dudley uses RF tags buried in the ground, such that when a golfer approaches a tag, certain information such as distance to the green can be conveyed. Dudley does say that advertising information can be conveyed when in proximity to a certain tag (p. 12).

Of course, if the proposed modification or combination would change the principle of operation, then the references are not sufficient to render the claims *prima facie* obvious. *See, In re Ratti*, 270 F.2d 810, 813, 123 U.S.P.Q. 349 (CCPA 1959). The operating principle of Paul is to broadcast messages to all users by radio, including advertising messages, regardless of position. Dudley operates to display information to a golfer based on proximity to a buried tag – *i.e.*, Dudley does not determine a position. Therefore, the operating principles are different and the rejection was in error.

2. Differences between the prior art and the claims

Even if Paul and Dudley are combined, the claim limitations are not taught or suggested by the proposed combination of Paul in view of Dudley. Again, Paul teaches only that messages, including advertising, can be broadcast over a radio to golfers. Dudley shows that messages, including advertising messages, can be triggered when in proximity to a buried tag. As such, Paul does not even suggest a problem of displaying advertising messages to users based on the users location, so there would be no motivation to combine the buried tags of Dudley.

Because none of the cited references suggest the location determination techniques of the present invention, it is not surprising that the references do not suggest the limitations in the present claims. Claims 21 and 32 are the broadest independent claims and are directed to advertising on a golf course based on the GPS determined position of the golfer. For example, claim 21 calls for "displaying the advertising message" if "the present position of the remote receiver is an advertising location" where the position is determined with GPS. Dudley suggests displaying advertising to a golfer based on proximity to a buried tag. The proposed combination of Paul and Dudley, even if proper, does not meet the claim limitations of Claims 21 and 32, *e.g.* displaying the advertising message based on "the position of the remoter receiver relative to the message locations" where the position is determined with GPS.

Even if combined, Paul and Dudley are missing elements of claims 21, 32, and 41. None of the references disclose at least "a memory storing a set of message locations on a golf course," (Claim 32) or "determining the position of a remote receiver on a golf course using the global positioning satellite system," (Claim 41) or using a GPS position to provide advertising information to a golfer. Claim 21 calls for "selecting one or more advertising locations" and "comparing the one or more advertising locations with the present position of the remote receiver" and displaying an advertising message on the golf course. The hypothetical combination does not describe a memory (Claim 32) for "storing a set of message locations on the golf course" and "displaying the message to the golfer" if the GPS receiver coincides with one of the message locations. Dudley does not disclose at least using a GPS system to locate the position of a remote GPS receiver on a golf course or displaying advertising messages by

comparing the relative position of the remote GPS receiver with respect to the position of stored message locations (e.g. Claim 41). In essence, what the Examiner has done is to piece together aspects from each of these references to assert that claims 21-39 and 41 are obvious. Simply put, the proposed combination does not meet the claim limitations of the independent claims, 21, 32, and 41.

A supposition in the final Office Action might be that given the combination, an artisan skilled in GPS theory and database and memories that managed golf courses could "figure out" the missing elements. The legal test is, however, whether the combination meets the claim limitations, which clearly it does not. *Graham v. John Deere Co.,* 383 U.S. 1, 148 U.S.P.Q. 459 (1966). As noted above, claim 21 provides that the advertising message is displayed when the position of the receiver means coincides with one of the advertising locations. This limitation is not disclosed or suggested in any of the references of the proposed combination. *Stratoflex, Inc. v. Aeroquip Corp.* 713 F.2d 1530, 218 U.S.P.Q. 871 (Fed. Cir. 1983) (the issue is not whether the differences would have been obvious, but whether the claimed invention as a whole would have been obvious).

3. The reason a person of ordinary skill in the relevant field would not combine the prior elements

Of course, if the proposed modification or combination would change the principle of operation, then the references are not sufficient to render the claims prima facie obvious. *See*, *KSR*, slip op. at 14; *See also, In re Ratti*, 270 F.2d 810, 813, 123 U.S.P.Q. 349 (CCPA 1959). Dudley operated to display information to a golfer based on proximity to a buried tag – *i.e.*, Dudley does not determine a position. Apparently, "Dudley is cited for its teaching of the desirability of transmitting advertisements to golfers at selected positions and not specifically to its position determination methods." What the final Office Action failed to recognize is that use of proximity (Dudley) would change the operating principle of the claimed invention. Because the operating principle is part of the claims, the proposed combination does not meet the claim limitations. The rejection was thus in error.

The motivation to combine prior art references most often comes from the references themselves and must be clear. In particular, broad conclusory statements are not evidence of a motivation to combine. *Brown & Williamson Tobacco Corp. v. Phillip Morris, Inc.,* 229 F.3d 1120, 1125, 56 U.S.P.Q.2d 1456 (Fed. Cir. 2000). Regardless of the source, there must be some evidence of a motivation to combine. *In re Dembiczak,* 175 F.3 at 999 ("The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular.") The reason for a proposed combination should be explicit. *KSR*, slip op. at 14.

For at least the foregoing reasons, the claims currently presented are allowable over the § 103 issues raised in the final Office Action, and applicant respectfully requests reconsideration and allowance in view of the traversal herein.

II. Rejection of Pending Claims on the Ground of Double Patenting

Double Patenting of the obviousness-type is "a judge-made criterion adopted out of necessity where the courts were faced with a situation in which claims in two applications or patents were not drawn precisely to the same invention . . ." *Gerber Garment Technology, Inc. v. Lectra Systems, Inc.*, 916 F. 2d 683 (Fed. Cir. 1990). It does not appear that any case has answered whether this judge-made doctrine has survived Congressional intervention when it amended 35 U.S.C. § 154(a) to a term of 20 years from the date of filing. *See*, Pub. L. 103-465.

When considering a double patenting rejection of the obviousness type, a comparison of the competing claims are made. That is, the earlier patent's disclosure is not available to show nonstatutory double patenting. *See*, *Gen. Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1281-82 (Fed. Cir. 1992). *See also*, MPEP 804B. 1 ("the disclosure of the patent may not be used as prior art").

Turning to the present application, the claims of U.S. Pat. No. 5,364,093 must be compared with the claims under examination. Probative, is the Office Action Mailed October 25, 2006, note in para. 2 that the claims under examination are not entitled to the benefit of the filing date of the '093 patent because the '093 patent did not disclose the claimed subject matter.

This determination evidences that the present claims would not be considered by one of ordinary skill in the art as disclosed in the manner provided under 35 U.S.C. § 112, first paragraph. While applicant understands that the tests for obviousness and enablement are not identical, this ruling appears relevant to the question of obviousness in view of the '093 claims.

Comparing the present claims under examination, applicant cannot find a single claim in the '093 patent that would render the present claims obvious therefrom, either alone or in combination with Paul or Dudley. Claim 1 of '093 relates to a method for determining the approximate distance on a golf course, while claim 15 relates to an apparatus for determining the approximate distance. Claim 19 relates to tracking locations. None of the claims of '093 would fairly suggest the subject matter of the claims of the present application. For example, the present claims relate to methods and systems for "displaying an advertising message to a golfer on a golf course" at advertising locations. As noted *infra*, Paul relates to radio broadcasts of messages including advertising messages. Dudley relates to messages based on proximity to buried tags. Therefore, there is no motivation or suggestion to combine Paul or Dudley with the claims of the '093 patent, and even if such a combination were made, the present claim limitations are not met.

For at least the reasons stated above, Applicant asserts that the present claims are not taught or suggested by the claims of U.S. Patent No. 5,364,093 alone or in combination with Dudley or Paul. Accordingly, Applicant respectfully requests removal of this rejection.

* * *

For the foregoing reasons, it is submitted that the Examiner's rejection of and objection to pending claims 21-36, 38, 39, and 41 was erroneous, and reversal of the Examiner's decision is respectfully requested.

The Commissioner is authorized to charge the required fees or credit any overpayment to Daffer McDaniel, LLP deposit account no. 50-3268.

Respectfully Submitted,

/Charles D. Huston/
Charles D. Huston
Registration No. 31,027
Attorney for Appellant

Customer No. 35617
Date: July 3, 2007

VIII. CLAIMS APPENDIX

21. A method for displaying an advertising message to a golfer on a golf course using a global positioning satellite system comprising the steps of:

positioning a remote global positioning satellite receiver on the golf course;

determining a present position of the remote receiver on the golf course using a global positioning satellite system;

storing one or more advertising locations on the golf course;

comparing the one or more advertising locations with the present position of the remote receiver; and

displaying the advertising message to the golfer if the present position of the remote receiver is an advertising location.

22. The method of claim 21, including a step of determining if the remote receiver is moving using said position and displaying said message when the remote receiver is moving.

23. The method of claim 21, including a step of determining if the remote receiver is moving using said position and displaying said message when the remote receiver is not moving.

24. The method of claim 22, the step of determining if the remote receiver is moving including the substeps of determining another position of the remote receiver and comparing said position and said other position to determine if the remote receiver is moving.

25. The method of claim 21, said message comprising a graphic depiction.

26. The method of claim 21, the displaying step including displaying a golf hole layout on said golf course at other locations on the golf course.

27. The method of claim 21, the displaying step including displaying golf information in addition to said advertising message at other locations on the golf course.

28. The method of claim 27, said golf information comprising a scorecard.

29. The method of claim 27, said golf information comprising a refreshment order page.

30. The method of claim 21, including a step of determining an approximate distance of a golf ball to a feature on the golf course including the substeps of storing the location of the feature in a database, positioning the remote receiver proximate to a golf ball, and determining the distance between said stored feature location and said remote receiver position.

31. The method of claim 21, including a step of determining an error correction for the global positioning satellite system comprising the substeps of:

positioning a global positioning satellite receiver at a reference location having a known position;

determining an apparent position of the reference location using the receiver; and

calculating an error correction based on said apparent position and said known position of the reference location.

32. An apparatus for displaying advertising information to a golfer on a golf course using a global positioning satellite system comprising:

a global positioning receiver for receiving signals indicative of an apparent position of the receiver means using a global positioning satellite system and positionable on the golf course;

a processor linked to said global positioning receiver for determining the position of the receiver on the golf course;

a memory storing advertising information associated with advertising locations on the golf course;

a processor for comparing the position of the receiver with the advertising information locations; and

a display for displaying the advertising information to the golfer when the position of the receiver is at an advertising information location.

33. The apparatus of claim 32, said display being operable for displaying a graphic representation of said advertising information.

34. The apparatus of claim 33, said display including a digitizer overlaying said graphic representation and a pen operable for providing inputs to said display.

35. The apparatus of claim 32, said display being operable for displaying a graphic representation of a golf hole to the golfer.

36. The apparatus of claim 32, said memory operable for storing different advertising messages and said processor operable for displaying different advertising information at different positions of the receiver on the golf course.

38. The apparatus of claim 32, said display being connected to the global positioning receiver for displaying the advertising information based on movement of the receiver on the golf course.

39. The apparatus of claim 32, said display being operable for displaying advertising information based on an activity of the golfer.

41. A method for displaying advertising information to a golfer on a golf course using a global positioning satellite system comprising the steps of:

positioning a remote global positioning satellite receiver on the golf course;

determining a present position of the remote receiver on the golf course using the global positioning satellite system;

correcting said present position of the remote receiver;

storing one or more advertising information associated with one or more locations on the golf course in a memory of the remote receiver;

comparing the one or more advertising information locations with a position of the remote receiver; and

displaying the associated advertising information to the golfer if a position of the remote receiver is an advertising information location.

IX. EVIDENCE APPENDIX

Declarations under 37 CFR § 1.131 were entered during the prosecution of the captioned case related to antedating Dimitriadis and Takahata.

X. RELATED PROCEEDINGS APPENDIX

A prior appeal may have a bearing on the Board's decision in this appeal. The present application is a continuation of Serial Number which 08/925,293 which was decided by this Board in Appeal No. 2000-0947. Appeal No. 2000-0947 was appealed to the Court of Appeals for the Federal Circuit 02-1048 decided October 17, 2002. Copies of both decisions are included.

Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHARLES D. HUSTON and DARRYL J. CORNISH

Appeal No. 2000-0947
Application No. 08/926,293

ON BRIEF

Before ABRAMS, STAAB, and NASE, Administrative Patent Judges.
NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 5 to 18 and 21 to 26. Claim 27 has been allowed. Claims 3 and 4 have been objected to as depending from a non-allowed claim. Claim 28 has been withdrawn from consideration under 37 CFR § 1.142(b) as being drawn to a nonelected invention. Claims 2, 19 and 20 have been canceled.

We AFFIRM.

BACKGROUND

The appellants' invention relates to a method and apparatus for displaying advertising, promotion, and other types of messages on a screen used by a golfer on a golf course (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Wang et al. (Wang)	5,056,106	Oct. 8, 1991
Bonito et al. (Bonito)	5,095,430	Mar. 10, 1992
Fukushima et al. (Fukushima)	5,270,936	Dec. 14, 1993
Dudley	5,326,095	July 5, 1994
Paul	5,524,081	June 4, 1996
Dimitriadis et al. (Dimitriadis)	5,664,948	Sept. 9, 1997

Hurn, "GPS A Guide to the Next Utility," Trimble Navigation, 1989

RTCM, "RTCM Recommended Standards for Differential Navstar GPS Service," Version 2.0, January 1, 1990

The following rejections under 35 U.S.C. § 103 are before us in this appeal:

(1) Claims 1, 5 to 7, 10, 12, 13 and 16 to 18 as being unpatentable over Wang in view of Fukushima and Dudley.

(2) Claims 8, 9, 14 and 15 as being unpatentable over Wang in view of Fukushima and Dudley and further view of Bonito.

(3) Claims 11 and 21 to 26 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM.

(4) Claims 1, 5 to 7, 10, 12, 13 and 16 to 18 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis.

(5) Claims 8, 9, 14 and 15 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis and further view of Bonito.

(6) Claims 11 and 21 to 26 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis and further view of either Hurn or RTCM.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the final rejection (Paper No. 19, mailed August 20, 1998) and the answer (Paper No. 16, mailed November 8, 1999) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 15, filed August 19, 1999) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and

claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

Before turning to the merits of the actual rejections under 35 U.S.C. § 103 before us in this appeal, we believe it is appropriate to resolve some preliminary matters.

The first preliminary matter is to decide the effective filing date of the claimed subject matter so that we can properly determine if the claims under appeal would have been obvious **at the time the invention was made** to a person having ordinary skill in the art. The appellants argue throughout the brief (pp. 12-29) that the current application has a priority date of December 10, 1991 and that as of that date it would not have been obvious at the time the invention was made to a person having ordinary skill in the art to have combined the applied prior (especially Wang and Fukushima) to arrive at the claimed subject matter. The examiner determined (answer, p. 11) that the claimed subject matter has a filing date of December 30, 1994 since there is no

support for the claimed subject matter in the earlier-filed, related parent applications.

We agree with the examiner that the claimed subject matter under appeal is only entitled to the filing date of the instant application (i.e., December 30, 1994). While the appellants have claimed benefit of two earlier-filed applications (i.e., Application No. 08/313,718 filed September 22, 1994 and Application No. 07/804,368 filed December 10, 1991), the appellants are not entitled to the benefit of those earlier-filed applications under 35 U.S.C. § 120 since those earlier-filed applications do not disclose the currently claimed subject matter in the manner provided by the first paragraph of 35 U.S.C. § 112. Specifically, those earlier-filed applications do not disclose displaying an advertising message to a golfer as set forth in the claims under appeal.

The other preliminary matter is to decide whether or not Fukushima and Dimitriadis are non-analogous art to the claimed subject matter. The test for non-analogous art is first whether the art is within the field of the inventor's endeavor and, if not, whether it is reasonably pertinent to the problem with which the inventor was involved. In re Wood, 599 F.2d 1032, 1036, 202

USPQ 171, 174 (CCPA 1979). A reference is reasonably pertinent if, even though it may be in a different field of endeavor, it logically would have commended itself to an inventor's attention in considering his problem because of the matter with which it deals. In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1061 (Fed. Cir. 1992). In the present instance, we are informed by the appellants' originally filed specification that the invention is particularly directed to displaying advertising messages to golfers based on the current position of the golfer as determined by a global positioning satellite system (GPS). Fukushima teaches using GPS to locate the current position of a vehicle and thus falls at least into the latter category of the Wood test, and logically would have commended itself to an artisan's attention in considering the appellants' problem. Dimitriadis teaches using GPS to locate the current position of a vehicle to provide location specific advertising information and thus falls at least into the latter category of the Wood test, and logically would have commended itself to an artisan's attention in considering the appellants' problem. Thus, we conclude that both Fukushima and Dimitriadis are analogous art.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a case of obviousness.

See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A case of obviousness is established when the teachings of the prior art itself would appear to have suggested the claimed subject matter to one of ordinary skill in the art. See In re Bell, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993). In considering the question of the obviousness of the claimed invention in view of the prior art relied upon, we are guided by the basic principle that the question under 35 U.S.C. § 103 is not merely what the references expressly teach but what they would have suggested to one of ordinary skill in the art at the time the invention was made. See Merck & Co., Inc. v. Biocraft Laboratories, Inc., 874 F.2d 804, 807, 10 USPQ2d 1843, 1846 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). That is, the question of obviousness cannot be approached on the basis that an artisan having ordinary skill would have known only what they read in the references, because such artisan is presumed to know something about the art apart from what the references disclose. See In re Jacoby, 309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1962). It is not necessary that suggestion or motivation be found within the four corners of the references themselves; a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the

art without any specific hint or suggestion in a particular reference. See In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969). Further, in an obviousness assessment, skill is presumed on the part of the artisan, rather than the lack thereof. In re Sovish, 769 F.2d 738, 226 USPQ 771 (Fed. Cir. 1985). We are bound to consider the disclosure of each reference for what it fairly teaches one of ordinary skill in the art, including not only the specific teachings, but also the inferences which one of ordinary skill in the art would reasonably have been expected to draw therefrom. See In re Boe, 355 F.2d 961, 148 USPQ 507 (CCPA 1966); and In re Preda, 401 F.2d 825, 159 USPQ 342 (CCPA 1968).

With this as background, we turn to the rejections under 35 U.S.C. § 103 before us in this appeal.

Rejection (1)

We sustain the rejection of claims 1, 5 to 7, 10, 12, 13 and 16 to 18 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley.

Claim 1 reads as follows:

> A method for displaying an advertising message to a golfer on a golf course using the global positioning satellite system comprising the steps of:
> positioning a remote global positioning satellite receiver on the golf course;
> storing a plurality of predetermined locations on the golf course;
> determining a position of the remote receiver on the golf course using the global positioning satellite system; and
> displaying the advertising message to the golfer on the golf course based on the position of the remote receiver relative to the predetermined locations on the golf course.

Wang's invention is directed to a method and apparatus which employs a spread-spectrum based radiolocation system, using hand-held receiver units and fixed-position reference transmitters, to determine distance and direction between a golfer and key locations on a golf course, such as the distance and direction to a particular pin. The plurality of timing reference transmitters which are located throughout the vicinity of the golf course broadcast a spread-spectrum ranging signal consisting of a radio-frequency carrier directly modulated by a periodic pseudo-noise (PN) coded or similar sequence. Each transmitter broadcasts at the same RF signal but a unique PN-coded sequence is assigned to each transmitter. Golfers are provided with the hand-held receiving unit which receives the

transmitter spread-spectrum signals and which synchronizes to the spread-spectrum signals in order to obtain range estimates to a selected set of reference transmitters. The hand-held receivers also include memory to store the coordinates of the reference transmitters and the pin positions and other reference points for each hole on the golf course, which are either pre-loaded into memory or transmitted (as modulating data) with the ranging signal. Each hand-held unit also includes a digital processor which incorporates a hyperbolic location algorithm to compute the hand-held unit position based on the estimated ranges to the selected transmitters and the reference transmitter coordinates. The distance and direction from the current position to the pin or other selected reference points is then displayed via an appropriate medium on the hand-held unit.

Fukushima teaches (column 1, lines 45-47) that an object of his invention is "to provide a simplified navigation apparatus which is small in size, low in cost and easy to use." Fukushima's simplified navigation apparatus comprises: a GPS receiver for outputting coordinate data representing the absolute current location of a vehicle; a reading means for reading from a recording medium a plurality of geographical point data groups

contained therein, each data group comprising point name data paired with coordinate data; a display means for displaying display information signals supplied thereto; a display point setting means for detecting coordinate data on a given geographical point from among the plurality of geographical point data groups and setting the coordinate data for the display target point; a reading control means for controlling the reading means so as to retrieve from the recording medium the point name data paired with the coordinate data on the display target point; a computing means for obtaining the data on the distance and direction to the display target point based on the coordinate data both on the current position and on the display target point; and a display control means for supplying the display means with the point name data, distance data and direction data on the display target point as the display information signals. Fukushima further teaches (column 6, lines 46-49) that his simplified navigation apparatus may be mounted not only on passenger cars and trucks but also on bicycles and motorcycles; it may even be carried by a person as a portable navigation apparatus.

Dudley teaches the use of a golf information system which automatically provides golfers with reference position and distance information from a number of points on a particular golf course hole. In one embodiment, radio frequency identification tags would be positioned along a golf cart path, for example, buried underneath the path, and a reading system carried by the golf cart would output an interrogation signal which would activate the tags causing the tags to output a coded signal which would be received by the reading unit, which would retrieve information about that location from memory and output it to the golfer. Dudley discloses that the system can further be used to display advertising messages and to provide golf course management features such as monitoring cart usage and speed of play. Dudley teaches (column 2, lines 33-37, and column 7, lines 14-17) that various types of information besides position and yardage could also be outputted by his system including advertising messages displayed at preselected times and that the look-up table contained in EPROM 90 and RAMs 92 and 94 for microcontroller 88 can also include advertising messages which are activated by particular tags 24.

After the scope and content of the prior art are determined, the differences between the prior art and the claims at issue are to be ascertained. Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

Based on our analysis and review of Wang and claim 1, it is our opinion that the differences are (1) positioning a remote global positioning satellite receiver on the golf course; (2) determining a position of the remote receiver on the golf course using a global positioning satellite system; and (3) displaying an advertising message to the golfer on the golf course based on the position of the remote receiver relative to predetermined locations on the golf course.

Next, the level of ordinary skill in the pertinent art must be resolved. Six factors are relevant to a determination of the level of ordinary skill: educational level of the inventor, type of problems encountered in the art, prior art solutions, rapidity of innovation, sophistication of technology, and educational level of active workers in the field. Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 697, 218 USPQ 865, 868-69 (Fed. Cir. 1983), cert. denied, 464 U.S. 1043 (1984) and

Orthopedic Equipment Co. v. All Orthopedic Appliances, 707 F.2d 1376, 1382, 217 USPQ 1281, 1285 (Fed. Cir. 1983). However, a specific finding of a particular level of skill is not always necessary where, as here, the prior art itself reflects an appropriate level. Chore-Time Equip., Inc. v. Cumberland, 713 F.2d 774, 779 n.2, 218 USPQ 673, 676 n.2 (Fed. Cir. 1983).

With regard to the above-noted differences, the examiner reached the conclusion (final rejection, p. 5) that it would have been obvious **at the time the invention was made** (i.e., December 30, 1994) to a person having ordinary skill in the art to have modified Wang's system to utilize a global positioning satellite receiver on the golf course to determine the position of the remote receiver on the golf course using a global positioning satellite system in view of Fukushima's teachings and to display advertising messages to the golfer on the golf course based on the position of the remote receiver in view of Dudley's teachings. We agree.

The argument advanced by the appellants (brief, pp. 11-23) and the 37 CFR § 1.132 Declaration of Rick Horne (the Horne declaration), dated September 4, 1997, are unpersuasive for the

following reasons. First, the Horne declaration and the appellants' argument related thereto are directed to whether or not it would have been obvious in **December 1991** to a person having ordinary skill in the art to have combined the teachings of Wang and Fukushima in the manner set forth by the examiner in all the rejections before us in this appeal. However, since the issue in all the rejections before us in this appeal is whether or not it would have been obvious in **December 1994**[1] to a person having ordinary skill in the art to have combined the teachings of Wang and Fukushima, the Horne declaration and the appellants' argument related thereto are not entitled to any weight.

Second, it is our opinion that the person of ordinary skill in the art is not a golfer, a golf professional and/or golf course manager as proffered by the appellants (brief, p. 12). In our view, the applied prior art properly reflects the appropriate level and clearly demonstrates the level to be higher than a golfer, a golf professional and/or golf course manager.

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[1] See our discussion, supra, regarding the effective filing date of the claimed subject matter.

Third, the applied prior art does provide sufficient motivation for a person having ordinary skill in the art at the time the invention was made (i.e., December 1994) to have arrived at the claimed subject matter. In that regard, while there must be some teaching, reason, suggestion, or motivation to combine existing elements to produce the claimed device, it is not necessary that the cited references or prior art specifically suggest making the combination (see B.F. Goodrich Co. v. Aircraft Braking Systems Corp., 72 F.3d 1577, 1583, 37 USPQ2d 1314, 1319 (Fed. Cir. 1996) and In re Nilssen, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988)). Rather, the test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In our view, the combined teachings of Wang, Fukushima and Dudley would have made it obvious at the time the invention was made to a person having ordinary skill in the art to (1) replace Wang's radiolocation system to determine distance from the hand-held receiver to key locations on the golf course with a GPS receiver to determine distance from the GPS receiver to key locations on the golf course based on Fukushima's teaching that a GPS system

presents a simplified navigation apparatus which is small in size, low in cost and easy to use; and (2) display advertising messages to the golfer on the golf course based on the position of the remote receiver based on Dudley's teachings for the self-evident advantages thereof.

For the reasons set forth above, the decision of the examiner to reject claim 1 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley is affirmed.

The appellants have grouped claims 1, 5 to 7, 10, 12, 13 and 16 to 18 as standing or falling together.[2] Thereby, in accordance with 37 CFR § 1.192(c)(7), claims 5 to 7, 10, 12, 13 and 16 to 18 fall with claim 1. Thus, it follows that the decision of the examiner to reject claims 5 to 7, 10, 12, 13 and 16 to 18 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley is also affirmed.

[2] See page 7 of the appellants' brief.

Rejection (2)

Dependent claims 8, 9, 14 and 15 have not been separately argued by the appellants. In fact, the appellants have grouped claims 8, 9, 14 and 15 as standing or falling with the claims subject to rejection (1).[3] Accordingly, these claims will be treated as falling with their parent claims. See In re Young, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987); and In re Wood, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978). Thus, it follows that the decision of the examiner to reject claims 8, 9, 14 and 15 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley and further view of Bonito is also affirmed.

Rejection (3)

We sustain the rejection of claims 11, 21 to 23, 25 and 26 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM. We will not sustain the rejection of claim 24 under 35 U.S.C. § 103

[3] See page 7 of the appellants' brief.

as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM.

Claim 21 reads as follows:

> A system for displaying an advertising message to a golfer on a golf course using a global positioning satellite system comprising:
> differential correction means positioned at a known location for receiving signals from the global positioning satellite system, for determining an apparent location, and for transmitting a correction based on the difference between the known location and the apparent location;
> global positioning receiver means transportable for accompanying the golfer during play of golf on the golf course for receiving signals indicative of the apparent position of the receiver means on the golf course using the global positioning satellite system and including a communication link for receiving corrections from the differential correction means, the global positioning receiver means being operable for determining an accurate position on the golf course based on the apparent position and the corrections; storage means storing a plurality of predetermined accurate positions on the golf course;
> means linked to said global positioning receiver means and said storage means for determining if the position of the receiver means coincides with one of the plurality of predetermined accurate positions; and
> display means coupled to the global positioning receiver means for displaying the advertising message to the golfer if the position of the receiver means coincides with one of the predetermined accurate positions of the global positioning receiver means on the golf course.

The examiner determined (final rejection, p. 9) that the claimed subject matter would have been obvious at the time the

invention was made to a person having ordinary skill in the art to combine the teachings of Wang, Fukushima and Dudley as set forth in rejection (1) above and to further incorporate differential processing in the GPS system to increase accuracy as taught by either Hurn or RTCM. We agree.

The appellants argument (brief, pp. 28-29) pointing out deficiencies of each applied reference on an individual basis is unpersuasive since nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. See In re Merck & Co. Inc., 800 F.2d 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986). In that regard, we note that the applied prior art clearly teaches the benefits (e.g., greater accuracy) of "differential GPS" over "GPS."

For the reasons set forth above, the decision of the examiner to reject claim 21 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM is affirmed.

The appellants have grouped claims 21 to 23, 25 and 26 as standing or falling together.[4] Thereby, in accordance with 37 CFR § 1.192(c)(7), claims 22, 23, 25 and 26 fall with claim 21. Dependent claim 11 has not been separately argued by the appellant. In fact, the appellants have grouped claim 11 as standing or falling with the claims subject to rejection (1).[5] Accordingly, claim 11 will be treated as falling with its parent claim 1. Thus, it follows that the decision of the examiner to reject claims 11, 22, 23, 25 and 26 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM is also affirmed.

Claim 24 adds to parent claim 21 the limitation "said communications link being operable for receiving an advertising message and for sending said received message to the display means for display."

The appellants argue (brief, pp. 29-30) that the limitation of claim 24 is not suggested by the applied prior art. We agree. In fact, the examiner's response (answer, p. 14) to this argument

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[4] See page 7 of the appellants' brief.

[5] See page 7 of the appellants' brief.

is that Paul clearly shows/suggests the limitation of claim 24. However, since Paul is not applied in this ground of rejection, the examiner has failed to present a case of obviousness with respect to claim 24.

For the reasons set forth above, the decision of the examiner to reject claim 24 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM is reversed.

Rejection (4)

We sustain the rejection of claims 1, 5 to 7, 10, 12, 13 and 16 to 18 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis.

The teachings of Fukushima and Wang have been set forth above in our discussion of rejection (1).

Paul[6] teaches (see abstract) a golf information and management system utilizing the Global Positioning System, a

[6] In our view, Paul is the closest piece of prior art (from the prior art before us in this appeal) to the claimed invention.

satellite based, radio navigation system where clocks signals are transmitted. This satellite system provides at least four satellites 2 "in view" at all time. A golf cart 12 or player receives the signals from the four satellites, compares the clocked signals and an on-board computer reads the clocked signals and determines the position, in three dimension, of the receivers (velocity of the receivers is also available). There is a fixed base location 8 on the golf course that also receives the satellite signals and transmits a differential correction signal, via another channel, to the golf cart or player, where the computer determines the position of the cart or player to within a yard. The computer may be pre-loaded with golf course information, such as pin position, hazard positions, etc., where the computer via a graphical display 18 communicates to the player exact distances to the pre-loaded known physical features of the golf course, and displays information needed by the player to determine his next shot, including a video presentation of a golf pro's suggestions. In addition, the cart may communicate with the base station where the base station can track each cart or player on the course. With such information, detecting slow players to allow better course management, and also allows the base station to output information to a cart to show the players

ahead so as not to hit into other groups and to send messages to carts to urge faster play to send out other type messages. Paul further teaches (column 8, lines 15-21) that the base unit performs other functions in addition to broadcasting the differential corrections in that it provides a mechanism for broadcasting messages to all carts or any specific cart. The broadcasts can include notices from the clubhouse, weather alerts, **advertising**, leader board updates, etc.

Dimitriadis' invention delivers data and information including advertising information to a receiving device. In accordance with his invention, data which can include **advertising** information is transmitted to a receiving device and then it is collected and stored within the receiving device. The receiving device intermittently presents stored information to a listener. The receiving device can provide multiple presentations of advertising information which was transmitted to the receiving device one time by radio signal. Presentation of the advertising information at the receiving device may be triggered by a variety of functions. Stored advertising information entries may be presented, for example, by reference to a time schedule, to current receiving device location, or to receiving device events

such as power-up. Because the advertising information is broadcast only one time and presented multiple times, the advertiser incurs less expense for each advertisement presentation, there being multiple advertisement presentations for one radio signal transmission. As shown in Figure 1 of Dimitriadis, a global position system (GPS) satellite 50 provides transmission 52 to determine the location of a GPS receiver carried by vehicle 10 (the GPS receiving device is incorporated into travel information device 40). Thus, travel information device 40 receives several channels of information. Voice broadcast 22 provided by radio broadcast system 20 provides a stream of analog voice information. Data broadcast 26 provides further advertising information, e.g., digital, voice or text information, to be captured by device 40. Third, the GPS transmission 52 provides current vehicle location. As shown in Figure 3 of Dimitriadis, the travel information device 40 includes a display 100 for advertisement presentation of text type data.

Based on our analysis and review of Fukushima and claim 1, it is our opinion that the differences are: (1) positioning a remote global positioning satellite receiver on a golf course;

(2) storing a plurality of predetermined locations on the golf course; (3) determining a position of the remote receiver on the golf course using the global positioning satellite system; and (4) displaying an advertising message to a golfer on the golf course based on the position of the remote receiver relative to the predetermined locations on the golf course.

With regard to the above-noted differences, the examiner reached the conclusion (final rejection, p. 10) that it would have been obvious **at the time the invention was made** (i.e., December 30, 1994) to a person having ordinary skill in the art to have utilized Fukushima's apparatus for a golfer on a golf course so that the position of the GPS receiver on the golf course would be determined using a global positioning satellite system in view of Wang's teachings and to display advertising messages at predetermined geographic locations of the GPS receiver in view of the teachings of either Paul or Dimitriadis. We agree.

The appellants presents the same argument with regard to this ground of rejection as they presented with regard to rejection (1). We find this argument unpersuasive for the

reasons expressed above in our discussion of rejection (1). Additionally, we note that the appellants belief (brief, pp. 26-27) that Paul does not suggest providing advertising messages to players on a golf course is wrong since Paul specifically teaches (column 8, lines 15-21) that the broadcasts from the base unit to a cart can include notices from the clubhouse, weather alerts, **advertising**, leader board updates, etc.

For the reasons set forth above, the decision of the examiner to reject claim 1 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis is affirmed.

The appellants have grouped claims 1, 5 to 7, 10, 12, 13 and 16 to 18 as standing or falling together.[7] Thereby, in accordance with 37 CFR § 1.192(c)(7), claims 5 to 7, 10, 12, 13 and 16 to 18 fall with claim 1. Thus, it follows that the decision of the examiner to reject claims 5 to 7, 10, 12, 13 and 16 to 18 under 35 U.S.C. § 103 as being unpatentable over

[7] See page 7 of the appellants' brief.

Fukushima in view of Wang and either one of Paul or Dimitriadis is also affirmed.

Rejection (5)

Dependent claims 8, 9, 14 and 15 have not been separately argued by the appellants. In fact, the appellants have grouped claims 8, 9, 14 and 15 as standing or falling with the claims subject to rejection (4).[8] Accordingly, these claims will be treated as falling with their parent claims. Thus, it follows that the decision of the examiner to reject claims 8, 9, 14 and 15 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis and further view of Bonito is also affirmed.

Rejection (6)

We sustain the rejection of claims 11, 21 to 23, 25 and 26 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Dimitriadis and further view of either Hurn or RTCM. We sustain the rejection of claims 11 and 21 to 26 under

[8] See page 7 of the appellants' brief.

35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul and further view of either Hurn or RTCM. We will not sustain the rejection of claim 24 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Dimitriadis and further view of either Hurn or RTCM.

The examiner determined (final rejection, p. 12) that the claimed subject matter would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the teachings of Fukushima, Wang and either Paul or Dimitriadis as set forth in rejection (4) above and to further incorporate differential processing in the GPS system to increase accuracy as taught by either Hurn or RTCM. We agree.

The appellants argument (brief, pp. 28-29) pointing out deficiencies of each applied reference on an individual basis is unpersuasive since nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. See In re Merck & Co. Inc., 800 F.2d at 1097, 231 USPQ at 380. In that regard, we note that the applied prior art clearly teaches the

benefits (e.g., greater accuracy) of "differential GPS" over "GPS."

For the reasons set forth above, the decision of the examiner to reject claim 21 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul or Dimitriadis and further view of either Hurn or RTCM is affirmed.

The appellants have grouped claims 21 to 23, 25 and 26 as standing or falling together.[9] Thereby, in accordance with 37 CFR § 1.192(c)(7), claims 22, 23, 25 and 26 fall with claim 21. Dependent claim 11 has not been separately argued by the appellant. In fact, the appellants have grouped claim 11 as standing or falling with the claims subject to rejection (4).[10] Accordingly, claim 11 will be treated as falling with its parent claim 1. Thus, it follows that the decision of the examiner to reject claims 11, 22, 23, 25 and 26 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul or

[9] See page 7 of the appellants' brief.

[10] See page 7 of the appellants' brief.

Dimitriadis and further view of either Hurn or RTCM is also affirmed.

The appellants further argue (brief, pp. 29-30) that the limitation of claim 24[11] is not suggested by the applied prior art. We agree with respect to the rejection including Dimitriadis but disagree with respect to the rejection including Paul. The examiner's response (answer, p. 14) to this argument is that Paul clearly shows/suggests the limitation of claim 24.[12]

Since Paul is not applied in the ground of rejection including Dimitriadis, the examiner has failed to present a case of obviousness with respect to claim 24. Accordingly, the decision of the examiner to reject claim 24 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Dimitriadis and further view of either Hurn or RTCM is reversed.

In our view, Paul clearly teaches his communications link being operable for receiving an advertising message and for

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[11] The limitation that claim 24 adds to parent claim 21 is set forth above in our discussion of rejection (3).

[12] The appellants did not file a reply brief to respond to this determination of the examiner.

sending the received message to the display means for display and thus the appellants argument fails to establish any error in the examiner's rejection of claim 24 based upon Fukushima in view of Wang and Paul and further view of either Hurn or RTCM. Accordingly, the decision of the examiner to reject claim 24 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul and further view of either Hurn or RTCM is affirmed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1, 5 to 18, 21 to 23, 25 and 26 under 35 U.S.C. § 103 is affirmed; the decision of the examiner to reject claim 24 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM is reversed; the decision of the examiner to reject claim 24 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Dimitriadis and further view of either Hurn or RTCM is reversed; and the decision of the examiner to reject claim 24 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul and further view of either Hurn or RTCM is affirmed.

Since at least one rejection of each of the appealed claims has been affirmed, the decision of the examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

NEAL E. ABRAMS)
Administrative Patent Judge)
)
)
)
LAWRENCE J. STAAB) BOARD OF PATENT
Administrative Patent Judge) APPEALS
) AND
) INTERFERENCES
)
)
JEFFREY V. NASE)
Administrative Patent Judge)

CHARLES D. HUSTON
THOMPSON & KNIGHT, PC
98 SAN JACINTO BOULEVARD
SUITE 1200
AUSTIN, TX 78701

JVN/jg

United States Court of Appeals for the Federal Circuit

02-1048
(Serial no. 08/926,293)

IN RE CHARLES D. HUSTON and DARRYL J. CORNISH

Charles D. Houston, Thompson & Knight, L.L.P., of Austin, Texas, argued for appellants.

Sydney O. Johnson, Jr., Associate Solicitor, Office of the Solicitor, Patent and Trademark Office, of Arlington, Virginia, argued for appellee. With him on the brief were John M. Whealan, Solicitor; and William LaMarca, Associate Solicitor. Of counsel was Stephen Walsh, Associate Solicitor.

Appealed from: United States Patent and Trademark Office
Board of Patent Appeals and Interferences

United States Court of Appeals for the Federal Circuit

02-1048
(Serial No. 08/926,293)

IN RE CHARLES D. HUSTON and DARRYL J. CORNISH

DECIDED: October 17, 2002

Before MAYER, Chief Judge, DYK, and PROST, Circuit Judges.

Opinion for the court filed by Circuit Judge DYK. Dissenting opinion filed by Circuit Judge PROST.

DYK, Circuit Judge.

Charles D. Huston and Darryl J. Cornish ("appellants") appeal the decision of the United States Board of Patent Appeals and Interferences ("Board") affirming the final rejection of claims 1, 5-18, and 21-26 of U.S. Application Serial No. 08/926,293 ("the '293 application"). Ex parte Huston, No. 00-0947 (Bd. Pat. App. & Int. July 31, 2001). Because the Board properly concluded that the claims are not entitled to the filing date of an earlier filed application and would have been obvious to one of ordinary skill in the art at the time of invention, we affirm.

BACKGROUND

The claimed subject matter of the '293 application is directed to a method and apparatus for displaying an advertising message to a golfer on a screen based on the golfer's current position as determined by a global positioning satellite ("GPS") system. A GPS system is a constellation of satellites that circle the earth transmitting signals that are used to determine the location of a device receiving the signal.

Huston filed two earlier applications, U.S. Application Serial No. 07/804,368 ("the '368 application"), on December 10, 1991, and a continuation-in-part ("CIP") of the '368 application, United

States Application Serial No. 08/313,718 ("the '718 application"), on September 22, 1994. The '718 application ultimately issued as U.S. Patent No. 5,364,093 ("the '093 patent"). Appellants contend that the application at issue, the '293 application, is entitled to the benefit of the filing date of the '368 application, making the effective filing date December 10, 1991, rather than December 30, 1994. The United States Patent and Trademark Office ("PTO") contends that the '293 application should benefit only from its own December 30, 1994, filing date.

The '093 patent[1] relates to a method and system for determining and displaying the approximate distance between a golf ball and a target on the golf course such as a golf cup or a hazard. The invention of the '093 patent utilizes a GPS receiver positioned near the golf ball to determine the position of the golf ball and, based on that position, calculates the distance to a golf cup or a hazard. The specification describes an embodiment of the invention that includes a bi-directional radio system capable of receiving error correction information and "other information." '093 patent, col. 4, ll. 63-65.

Claims 1, 5-18, and 21-26 of the '293 application are at issue on appeal. Claims 1, 21, and 24 are representative. Claim 1 provides:

> 1. A method for displaying an advertising message to a golfer on a golf course using the global positioning satellite system comprising the steps of:
> positioning a remote global positioning satellite receiver on the golf course;
> storing, a plurality of predetermined locations on the golf course;
> determining, a position of the remote receiver on the golf course using the global positioning satellite system; and
> displaying the advertising message to the golfer on the golf course based on the position of the remote receiver relative to the predetermined locations on the golf course.

'293 application, claim 1 (emphasis added).

Claim 21 adds the limitation of a differential correction means for determining and transmitting an error correction. The differential correction means enables the GPS system to calculate the location of the golfer more accurately. Claim 21 provides:

> 21. A system for displaying an advertising message to a golfer on a golf course using a global positioning satellite system comprising:
> differential correction means positioned at a known location for receiving signals from the global positioning, satellite system, for determining an apparent location, and for transmitting a correction based on the difference between the known location and the apparent location;
> global positioning receiver means transportable for accompanying the golfer during play of golf on the golf course for receiving signals indicative of the apparent position of the

> receiver means on the golf course using the global positioning satellite system and including a communication link for receiving corrections from the differential correction means, the global positioning receiver means being operable for determining an accurate position on the golf course based on the apparent position and the corrections;
>
> storage means storing a plurality of predetermined accurate positions on a golf course;
>
> means linked to said global positioning receiver means and said storage means for determining if the position of the receiver means coincides with one of the plurality of predetermined accurate positions; and
>
> display means coupled to the global positioning receiver means for displaying the advertising message to the golfer if the position of the receiver means coincides with one of the predetermined accurate positions of the global positioning receiver means on the golf course.

'293 application, claim 21 (emphasis added).

Claim 24, which depends from claim 21, requires a communications link to receive and transmit the advertising message: "The system of claim 21, said communications link being operable for receiving an advertising message and for sending said received message to the display means for display." '293 application, claim 24.

PROCEEDINGS BELOW

The examiner rejected claims 1, 5-18, and 21-26 as obvious under 35 U.S.C. § 103(a), relying on various combinations of eight references: U.S. Patent No. 5,056,106 to Wang et al. ("Wang"); U.S. Patent No. 5,095,430 to Bonito et al. ("Bonito"); U.S. Patent No. 5,095,430 to Fukushima et al. ("Fukushima"); U.S. Patent No. 5,326,095 to Dudley ("Dudley"); U.S. Patent No. 5,524,081 to Paul ("Paul"); U.S. Patent No. 5,664,948 to Dimitriadis et al. ("Dimitriadis"); Jeff Hurn, "GPS: A Guide to the Next Utility," Trimble Navigation, 1989 ("Hurn"); and "RTCM Recommended Standards for Differential Navistar GPS Service," Version 2.0, Jan. 1, 1990 ("RTCM").

An initial question was whether the Paul and Dimitriadis patents should be considered as prior art under 35 U.S.C. § 102(e) against the '293 application.[2] The application that ultimately issued as Paul was filed May 2, 1994, and the application that ultimately issued as Dimitriadis was filed October 11, 1994. Thus, if the '293 application were entitled to a filing date of December 10, 1991, the filing date of the '368 application, then Paul and Dimitriadis would not be prior art under section 102(e). The examiner determined that appellants were not entitled to the benefit of the filing date of the '368 application because the '368 application did not disclose the currently claimed subject matter in the manner provided by the first paragraph of 35 U.S.C. § 112, as required by 35 U.S.C. § 120.[3]

Specifically, the examiner determined that the '368 application did not disclose the display of an advertising message to a golfer as set forth in the claims on appeal. The examiner accordingly considered the Paul and Dimitriadis patents to be prior art.

A brief description of the eight prior art references relied on by the examiner follows. Wang is directed to a method and apparatus that employs a spread-spectrum based radiolocation system. Wang, col. 1, ll. 13-14. The Wang system uses hand-held receiver units and fixed-position reference transmitters to determine distance and direction between a golfer and key locations on a golf course, for example, the distance and direction to a particular pin. Id., col. 2, ll. 12-35. Fukushima teaches the use of a GPS system to locate the current position of a vehicle and "provide[s] a simplified navigation apparatus which is small in size, low in cost and easy to use." Fukushima, col. 1, ll. 46-47. Dudley discloses a receiver positioned on a golf course used with tags positioned underground at predetermined locations on the golf course and displays advertising messages to a golfer (having the receiver) based on the golfer's position relative to the predetermined location of the tags. Dudley, col. 2, ll. 4-41. Bonito discloses marking a computer with a lighting pen to determine the distance between a golfer's location and a selected point. Bonito, col. 7, ll. 60-65. Paul discloses a golf information and management system that uses GPS to determine the position of a GPS receiver on a golf course, Paul, col. 5, ll. 41-43, 61-63, where a map of the course is stored at the base station, id., col. 6, ll. 61-62, and displays advertising messages to a golfer, id., col. 8, ll. 18-20. Dimitriadis teaches using GPS to locate the current position of a vehicle to provide location-specific advertising information, Dimitriadis, col. 2, ll. 61-67, wherein the GPS system determines the location of a GPS receiver, id., col. 5, ll. 31-34, and where advertising messages may be presented when the vehicle passes a predetermined location such as a geographic landmark, id., col. 3, ll. 19-28, col. 4, ll. 32-36. The Hurn article discloses using "differential correction" to calculate errors occurring during the transmission of a satellite signal and teaches that, given its ability to determine errors, differential GPS achieves more accurate measurements than conventional GPS. The Radio Technical Commission for Maritime Services ("RTCM") reference also discloses that differential GPS is a technique that significantly improves the accuracy of GPS.

The examiner made the following rejections:

(1) claims 1, 5-7, 10, 12, 13, and 16-18 as being unpatentable under 35 U.S.C. § 103(a) over Wang in view of Fukushima and Dudley;
(2) claims 8, 9, 14, and 15 as being unpatentable under 35 U.S.C. § 103(a) over Wang in view of Fukushima and Dudley and in further view of Bonito;
(3) claims 11 and 21-26 as being unpatentable under 35 U.S.C. § 103(a) over Wang in view of Fukushima and Dudley and in further view of either Hurn or RTCM;
(4) claims 1, 5-7, 10, 12, 13, and 16-18 as being unpatentable under 35 U.S.C. § 103(a) over Fukushima in view of Wang and either one of Paul or Dimitriadis;
(5) claims 8, 9, 14, and 15 as being unpatentable under 35 U.S.C. § 103(a) over Fukushima in view of Wang and either one of Paul or Dimitriadis and in further view of Bonito, and
(6) claims 11 and 21-26 as being unpatentable under 35 U.S.C. § 103(a) over Fukushima in view of Wang and either one of Paul or Dimitriadis and in further view of either Hurn or RTCM.

To rebut the examiner's obviousness findings, appellants filed a declaration under 37 C.F.R. § 1.132 from Rick Horne, Vice President of Operations of ProShot Golf, Inc., the exclusive licensee of Huston's '093 patent. Horne stated that, as of December 1991, it would not have been obvious to combine the Wang and Fukushima patents:

> What is lacking from Wang and Fukushima is anything that would have taught, suggested, or motivated me or one of ordinary skill in the art in December 1991 to modify the golf course ranging system of Wang by adapting the GPS-vehicle positioning system of Fukushima to become a GPS-based or a differential GPS-based golf distance determining method and system as described and claimed in the present [application].

Horne Decl. ¶ 15 (emphasis added).

In an office action dated November 26, 1997, the examiner considered the Horne declaration and found it unpersuasive: "The declaration of Rick Horne . . . is insufficient to overcome the rejection of claims 1, 3-18 and 21-26 based upon Wang et al. in view of Fukushima et al. and Dudley."

The examiner issued final rejections of claims 1, 3-18, and 21-26 in a Final Office Action dated August 20, 1998.

Huston appealed to the Board. The Board held that all claims had been properly rejected "[s]ince at least one rejection of each of the appealed claims has been affirmed." Huston, slip op. at 33.

First, the Board agreed with the examiner that Huston's application was not entitled to the December 10, 1991, filing date of the '368 application under 35 U.S.C. § 120 because it found that the '368 application did not disclose the currently claimed element of "displaying an advertising message" to a golfer in a manner consistent with the first paragraph of section 112:

> We agree with the examiner that the claimed subject matter under appeal is only entitled to the filing date of the instant application (i.e., December 30, 1994). While the appellants

> have claimed the benefit of two earlier-filed applications . . . the appellants are not entitled to the benefit of those earlier-filed applications under 35 U.S.C. § 120 since those earlier-filed applications do not disclose the currently claimed subject matter in the manner provided by the first paragraph of 35 U.S.C. § 112. Specifically, those earlier-filed applications do not disclose displaying an advertising message to a golfer as set forth in the claims under appeal.

Id., slip op. at 5 (emphasis added).

The Board then considered the Horne declaration and sua sponte found that it was "not entitled to any weight," because the declaration is

> directed to whether or not it would have been obvious in December 1991 to a person having ordinary skill in the art to have combined the teachings of Wang and Fukushima in the manner set forth by the examiner in all the rejections before us in this appeal. However, since the issue in all the rejections before us in this appeal is whether or not it would have been obvious in December 1994 to a person having ordinary skill in the art to have combined the teachings of Wang and Fukushima, the Horne declaration and the appellants' argument related thereto are not entitled to any weight.

Huston, slip op. at 15.

The Board determined the level of ordinary skill in the pertinent art. The Board found that "the person of ordinary skill in the art is not a golfer, a golf professional and/or golf course manager . . . . In our view, the applied prior art properly reflects the appropriate level and clearly demonstrates the level to be higher than a golfer, a golf professional and/or golf course manager." Id.

Turning to the merits of the obviousness rejection of claim 1, the Board analyzed the prior art and determined that

> the combined teachings of Wang, Fukushima, and Dudley would have made it obvious at the time the invention was made to a person having ordinary skill in the art to (1) replace Wang's radiolocation system to determine distance from the hand-held receiver to key locations on the golf course with a GPS receiver to determine distance from the GPS receiver to key locations on the golf course based on Fukushima's teaching that a GPS system presents a simplified navigation apparatus which is small in size, low in cost and easy to use; and (2) display advertising messages to the golfer on the golf course based on the position of the remote receiver based on Dudley's teachings for the self-evident advantages thereof.

Id. at 16-17 (emphases added). Thus, the Board identified two key elements of claim 1: (1) the use of a GPS system on a golf course to determine the position of a golfer; and (2) the use of such system to transmit location-specific advertising messages to a golfer. The Board found the first element, the use of GPS on a golf course, obvious in light of the combination of Wang and Fukushima. Later in its

opinion, the Board separately found that the use of GPS on a golf course was fully disclosed by a single prior art reference, the Paul patent. Indeed, the Board noted that "Paul is the closest piece of prior art (from the prior art before us on appeal) to the claimed invention." Id. at 22 n.6. The Board found the second element, positional advertising, obvious in light of Dudley's teaching of positional advertising on a golf course using a radio frequency system (rather than GPS).

The Board accordingly affirmed the rejection of claims 1, 5-7, 10, 12, 13, and 16-18 as unpatentable over Wang in view of Fukushima and Dudley. Huston, slip op. at 17. The Board treated dependent claims 8, 9, 14, and 15 as standing or falling with their parent claims and affirmed the rejection of those claims as well.[4] Id. at 18.

The Board also sustained the rejection of claims 11, 21-23, 25, and 26 as unpatentable over Wang in view of Fukushima and Dudley in further view of either Hurn or RTCM:

> The examiner determined . . . that the claimed subject matter would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the teachings of Wang, Fukushima and Dudley as set forth in rejection (1) above and to further incorporate differential processing in the GPS system to increase accuracy as taught by either Hurn or RTCM. We agree.

Id. at 19-20. The Board did not sustain the rejection of claim 24 over Wang in view of Fukushima and Dudley in further view of either Hurn or RTCM (though, as noted below, it rejected that claim on alternative grounds). Id. at 18-19.

The Board then turned to the examiner's alternative rejection of the claims. The Board sustained the examiner's rejection of claims 1, 5-7, 10, 12, 13, and 16-18 as being unpatentable under 35 U.S.C. § 103(a) over Fukushima in view of Wang and either Paul or Dimitriadis. As noted, the Board found that the application was not entitled to the benefit of the earlier filing date, and, therefore, Paul and Dimitriadis, which were both filed between 1991 and 1994, were properly considered as prior art under 35 U.S.C. § 102(e). The Board sustained the rejection:

> [T]he examiner reached the conclusion . . . that it would have been obvious at the time the invention was made (i.e., December 30, 1994) to a person having ordinary skill in the art to have utilized Fukushima's apparatus for a golfer on a golf course so that the position of the GPS receiver on the golf course would be determined using a global positioning satellite system in view of Wang's teachings and to display advertising messages at predetermined geographic locations of the GPS receiver in view of the teachings of either Paul or Dimitriadis. We agree.

Huston, slip op. at 26. The Board noted that "Paul specifically teaches . . . that the broadcasts from the base unit to a cart can include notices from the clubhouse, weather alerts, advertising, leader board updates, etc." Id. at 27. The Board further found that claims 1, 5-7, 10, 12, 13, and 16-18 stand or fall together, id., and that dependent claims 8, 9, 14, and 15 stand or fall with their parent claims, id. at 28, and accordingly sustained the rejection as to these claims.

The Board then sustained the examiner's rejection of claims 11 and 21-26 as unpatentable over Fukushima in view of Wang and Paul and in further view of either Hurn or RTCM:

> The examiner determined . . . that the claimed subject matter would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the teachings of Fukushima, Wang and either Paul or Dimitriadis . . . and to further incorporate differential processing in the GPS system to increase accuracy as taught by either Hurn or RTCM. We agree.

Huston, slip op. at 29. The Board noted that "the applied prior art clearly teaches the benefits (e.g., greater accuracy) of 'differential GPS' over 'GPS.'" Id. at 29-30.

The Board sustained the rejection of claim 24 as being unpatentable over Fukushima in view of Wang and Paul and in further view of either Hurn or RTCM:

> In our view, Paul clearly teaches his communication link being operable for receiving an advertising message and for sending the received message to the display means for display and thus the appellants' argument fails to establish any error in the examiner's rejection of claim 24 based upon Fukushima in view of Wang and Paul and further view of either Hurn or RTCM.

Huston, slip op. at 31-32.

The Board concluded that "[s]ince at least one rejection of each of the appealed claims has been affirmed, the decision of the examiner is affirmed." Id. at 33.

Huston timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

STANDARD OF REVIEW

"The ultimate determination of whether an invention would have been obvious under 35 U.S.C. § 103(a) is a legal conclusion based on underlying findings of fact." In re Kotzab, 217 F.3d 1365, 1369, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000). We review the Board's ultimate conclusion of obviousness without deference, and we review the Board's underlying factual determinations for substantial evidence. In re Gartside, 203 F.3d 1305, 1316, 53 USPQ2d 1769, 1776 (Fed. Cir. 2000). The scope

and content of the prior art are reviewed for substantial evidence. Id.

DISCUSSION

I

The first question is whether substantial evidence supports the Board's determination that the proper date for the obviousness analysis is December 1994, rather than December 1991, the filing date of the '368 application. We hold that it does.

Appellants contend that they are entitled to the benefit of the December 10, 1991, filing date of the '368 application. In order "[t]o gain the benefit of the filing date of an earlier application under 35 U.S.C. § 120, [a later-filed application] must comply with the written description requirement of 35 U.S.C. § 112." Lockwood v. Am. Airlines Inc., 107 F.3d 1565, 1571, 41 USPQ2d 1961, 1965-66 (Fed. Cir. 1997). The examiner concluded that "[t]he instant application has a filing date of 12/30/94 with respect to the display of advertising messages based on position since there is no support for such in the earlier-filed, related parent files." The Board agreed:

> We agree with the examiner that the claimed subject matter under appeal is only entitled to the filing date of the instant application (i.e., December 30, 1994). While the appellants have claimed the benefit of two earlier-filed applications . . . the appellants are not entitled to the benefit of those earlier-filed applications under 35 U.S.C. § 120 since those earlier-filed applications do not disclose the currently claimed subject matter in the manner provided by the first paragraph of 35 U.S.C. § 112. Specifically, those earlier-filed applications do not disclose displaying an advertising message to a golfer as set forth in the claims under appeal.

Huston, slip op. at 5 (emphasis added).

We agree with the examiner and with the Board. The '368 application did not disclose the location-specific transmission of advertising messages to a golfer using GPS. The specification states that the invention of the '368 application relates to "a method and apparatus which could accurately and quickly determine the position of a ball and the distance between the ball and features on the hole being played, such as the golf cup on the green, the preceding cart, or a hazard . . . ." The disclosure further describes the purpose of the invention as "determining the approximate distance between a golf ball and a target on the golf course such as the golf cup. In particular, the method and apparatus use a global positioning satellite receiver positioned near the golf ball to determine the approximate location of the golf ball." The specification further describes "option buttons" that

> allow the player to access "tips" (e.g., caddie hints), "drinks," and "more" respectively. . . . The "more" menu allows the player to access other options, such as a scorecard where the player can enter scores for the round for each player or food service. If desired, the scores can be transmitted over the radio network and downloaded to base station 12 for handicap input and is particular[ly] useful during tournaments. The "drink" button allows the player to order drinks . . . .

The specification continues:

> the packet radio system 20 is conventional, and includes modem 34, radio interface 36, and radio 38 (including an antenna, not shown). The radio system 20 is bi-directional in that it can receive error correction and other information as well as transmit present position back to the base station 12."

'093 patent, col. 4, ll. 60-65 (emphasis added).

Relying on In re Stryker, 435 F.2d 1340, 1341-42, 168 USPQ 372, 373 (CCPA 1971), appellants argue that the '368 application discloses the "genus" of transmitting "information," and that the '293 application is directed to the particular "species" of transmitting "advertising information." While the specification discloses the transmission of distance information and help messages to a golfer based on the golfer's position as determined by GPS, it does not in fact disclose the transmission of generic "other information" to a golfer based on the golfer's position as determined by GPS. Thus, even if advertising could be viewed as a subset of "other information," the transmission of "other information" based on position as determined by GPS was not disclosed, and in particular the transmission of positional advertising was not disclosed. "Entitlement to a filing date does not extend to subject matter which is not disclosed, but would be obvious over what is expressly disclosed. It extends only to that which is disclosed." Lockwood, 107 F.3d at 1571-72, 41 USPQ2d at 1966. Huston's parent application disclosure fails to support the presently claimed "displaying an advertising message" based on position, and the effective filing date is therefore December 30, 1994.

It follows that the Board properly considered the Paul and Dimitriadis patents as prior art under 35 U.S.C. § 102(e). Paul has an effective filing date of May 2, 1994, and Dimitriadis has an effective filing date of October 11, 1994.

It also follows that the Board properly rejected the Horne declaration. In his declaration, Horne repeatedly referred to December 1991 and made clear that he was addressing whether it would have been obvious in December 1991 to combine the Wang and Fukushima prior art references:

> What is lacking from Wang and Fukushima is anything that would have taught,

> suggested, or motivated me or one of ordinary skill in the art in December 1991 to modify the golf course ranging system of Wang by adapting the GPS-vehicle positioning system of Fukushima to become a GPS-based or a differential GPS-based golf distance determining method and system as described and claimed in the present U.S. Application Serial No. 08/366/994.

Horne Decl. ¶ 15 (emphasis added).

> Contrary to the examiner's assertion, the use of spread spectrum code modulated signals in Wang does not suggest that a GPS-based system, such as the system in Fukushima, could be successfully substituted for the ground-based system of Wang. Spread spectrum code modulated signals were well-known in December 1991 and were simply one available technique for multiple access communications.

Horne Decl. ¶ 16 (emphasis added).[5]

Thus, we find that substantial evidence supports the Board's determination of the effective filing date and its rejection of the Horne declaration.

II

The second question is whether the Board's obviousness determinations should be sustained.

A. Claim 1

In essence, the Board conducted its obviousness determination in two steps, corresponding to the two key elements it identified in claim 1. First, it identified a set of references that taught the use of a GPS system on a golf course to determine the location of a golfer.[6] Second, it identified prior art that taught the transmission of positional advertising, i.e., the display of an advertising message to the golfer on the golf course based on the position of a remote receiver relative to predetermined locations on the golf course.

1. The use of a GPS system on a golf course

The Board found the use of a GPS system on a golf course obvious in light of the combination of the Wang and Fukushima patents:

> [I]t would have been obvious at the time the invention was made (i.e., December 30, 1994) to a person having ordinary skill in the art to have modified Wang's system to utilize a global positioning satellite receiver on the golf course to determine the position of the remote receiver on the golf course using a global positioning satellite system in view of Fukushima's teachings.

Huston, slip op. at 14.

Appellants argue that there was no motivation or suggestion to combine Wang and Fukushima,

that the proposed modification would change the operating principle of the claimed invention, that there was no reasonable expectation of success in view of the teachings of Wang, and that the claim limitations were not taught or suggested by the proposed combination. We need not address these arguments because, later in its opinion, the Board identified a single piece of prior art, Paul, that fully disclosed the use of GPS on a golf course to determine the position of a golfer. Noting that Paul "is the closest piece of prior art (from the prior art before us on appeal) to the claimed invention," Huston, slip op. at 22 n.6, the Board fully described the teachings of Paul:

> Paul teaches (see abstract) a golf information and management system utilizing the Global Positioning System . . . . A golf cart 12 or player receives the signals from the four satellites, compares the clocked signals and an on-board computer reads the clocked signals and determines the position, in three dimension[s], of the receivers (velocity of the receivers is also available). There is a fixed base location 8 on the golf course that also receives the satellite signals and transmits a differential correction signal, via another channel, to the golf cart or player, where the computer determines the position of the cart or player to within a yard. The computer may be pre-loaded with golf course information, such as pin position, hazard positions, etc., where the computer via a graphical display 18 communicates to the player exact distances to the pre-loaded known physical features of the golf course, and displays information needed by the player to determine his next shot, including a video presentation of a golf pro's suggestions. In addition, the cart may communicate with the base station where the base station can track each cart or player on the course.

Id., at 22-23 (emphases added). Thus, the only limitation of claim 1 lacking in Paul was positional advertising," i.e., the transmission of location-specific advertising based on the position of a golf cart relative to predetermined locations on a golf course. Id.

Thus, the Board recognized that a single piece of prior art fully taught the use of a GPS system on a golf course to determine a golfer's position. As a result, appellants' arguments challenging the Board's combination of Wang and Fukushima to show that the use of GPS on a golf course was obvious are baseless in view of Paul.[7]

We note that the Board's decision could have been clearer, in that it could have simply cited Paul as prior art teaching the use of GPS on a golf course, rather than combining Wang and Fukushima to establish that premise. Nonetheless, the Board's reasoning can be readily discerned, and the fact that the Board found the use of GPS on a golf course obvious in light of the combination of Wang and Fukushima, rather than in light of Paul itself, does not compel reversal.

We conclude that the Board did not err in concluding that the use of a GPS system on a golf

course to determine the position of a golfer would have been obvious in light of the prior art at the time of invention.[8]

2. Positional advertising

The only remaining question as to claim 1 is whether it would have been obvious to one of ordinary skill to combine a system that uses GPS on a golf course with the transmission of positional advertising. The Board found that this missing element is disclosed in Dudley:

> Dudley teaches the use of a golf information system which automatically provides golfers with reference position and distance information from a number of points on a particular golf course hole. . . . Dudley discloses that the system can further be used to display advertising messages and to provide golf course management features such as monitoring golf cart usage and speed of play. Dudley teaches that various types of information besides position and yardage could also be outputted by his system including advertising messages to be displayed at preselected times and that the look-up table contained in EPROM 90 and RAMs 92 and 94 for microcontroller 88 can also include advertising messages which are activated by particular tags 24.

Huston, slip op. at 12 (emphasis added). The Board noted that:

> [I]t would have been obvious at the time the invention was made (i.e., December 30, 1994) to a person having ordinary skill . . . to display advertising messages to the golfer on the golf course based on the position of the remote receiver in view of Dudley's teachings.

Id. at 14, and further noted:

> In our view, [it] . . . would have [been] obvious at the time the invention was made to a person having ordinary skill in the art to . . . display advertising messages to the golfer on the golf course based on the position of the remote receiver based on Dudley's teachings for the self-evident advantages thereof.

Id. at 16-17 (emphasis added).

To establish obviousness, the Board must do more than identify the elements in the prior art. There must also be "some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead the individual to combine the relevant teachings of the references." In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988) (emphasis added). "The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (emphasis added).

Appellants complain that the Board did not specifically find a suggestion or motivation to combine the references in the prior art, except through its reliance on common knowledge and

common sense. They urge that In re Lee, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002), requires that we vacate and remand to the Board. We disagree.

Lee involved a situation in which the Board relied on its "general knowledge to negate patentability." In re Lee, 277 F.3d at 1345, 61 USPQ2d at 1435. In such circumstances we held that such "knowledge must be articulated and placed on the record." Id. The court further explained "that 'deficiencies of the cited references cannot be remedied by the Board's general conclusions about what is 'basic knowledge' or 'common sense.'" Id. at 1344, 61 USPQ2d at 1434-35 (quoting In re Zurko, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001)) (citation omitted).

Here we confront quite a different situation. Despite the Board's passing reference to "common knowledge and common sense," Huston, slip op. at 7, the Board in fact has not relied on its own general knowledge. Rather, it has found the motivation in the prior art references themselves. Its conclusions are cryptic, but they are supported by the record. The Paul reference indeed is quite specific in describing the disadvantages of the radio frequency system used in Dudley:

> The system uses embedded radio frequency (RF) tags to "mark" a course. The RF tags are detected by a cart mounted unit which then displays yardage to pin and yardage to hazards on an alphanumeric screen. The system has the following limitations: the screen is not dynamic, the system provides limited information beyond simple yardage differentials, and the entire information content is based on relative position and not actual location on the course. The golf course operator must commit to an extensive survey and installation of related markers and equipment before the system can be demonstrated.

Paul, col. 2, ll. 41-51. Thus, Paul provides the motivation to substitute a GPS system for the radio system of Dudley. Under such circumstances the Board's decision must be affirmed despite its failure to specifically cite the Paul reference for this purpose.

> As the Supreme Court stated,
>
> While we may not supply a reasoned basis for the agency's action that the agency itself has not given, SEC v. Chenery Corp., 332 U.S. 194, 196 (1947), we will uphold a decision of less than ideal clarity if the agency's path may reasonably be discerned." Colorado Interstate Gas Co. v. FPC, 324 U.S. 581, 595 (1945).

Bowman Transp., Inc. v. Arkansas-Best Freight Sys., Inc., 419 U.S. 281, 285-86 (1974). See also Greyhound Corp. v. ICC, 668 F.2d 1354, 1362-63 (D.C. Cir. 1981) ("'[T]his court has recognized judicial indulgence toward administrative action to the extent of affirming an order when an agency's

path, though convoluted, can be discerned.'") (quoting Midwestern Gas Transmission Co. v. FERC, 589 F.2d 603, 615 (D.C. Cir. 1978) (per curiam)). This is a situation where the Board's "path may reasonably be discerned." In short, we find that substantial evidence supports the Board's determination that there is a sufficient motivation to combine Dudley with a GPS system on a golf course, and hold that the Board's reasoning is sufficient. [9]

Accordingly, we uphold the Board's decision and affirm the Board's obviousness rejection of claim 1.

A. Claims 21 and 24

We also affirm the rejection of claims 21 and 24. The Board properly concluded that the additional features of claims 21 and 24 were obvious in light of the prior art. Claim 21 adds the limitation of a differential correction means for determining and transmitting an error correction. The Board agreed with the examiner that it would have been obvious to incorporate differential processing in a GPS system to increase accuracy as taught by either Hurn or RTCM:

> The examiner determined that the claimed subject matter would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the teachings of Wang, Fukushima and Dudley as set forth . . . above and to further incorporate differential processing in the GPS system to increase accuracy as taught by either Hurn or RTCM. We agree.

Huston, slip op. at 19-20. The Board further noted that "the applied prior art clearly teaches the benefits (e.g., greater accuracy) of 'differential GPS' over 'GPS.'" Id. at 20. We agree. See Hurn at 58-59 ("GPS is by far the most accurate global navigation system ever devised. But even its incredible accuracy can be boosted using a technique called 'differential GPS.' With it, GPS can achieve measurement accuracies of better than a meter. . . . Differential GPS measurements can be much more accurate than standard GPS measurements.").

Claim 24, which depends from claim 21, requires a communication link to receive and transmit the advertising message. The Board sustained the examiner's rejection of claim 24:

> In our view, Paul clearly teaches his communication link being operable for receiving an advertising message and for sending the received message to the display means for display and thus the appellants' argument fails to establish any error in the examiner's rejection of claim 24 based upon Fukushima in view of Wang and Paul and further view of either Hurn or RTCM.

Huston, slip op. at 31-32. We agree with the Board that the additional limitation of a communications link is disclosed in Paul and therefore affirm this rejection.

CONCLUSION

Because we find that the invention of claim 1 would have been obvious to one skilled in the art in December 1994 in view of Wang, Fukushima, and Dudley; that claim 21 would have been obvious in light of Wang, Fukushima, and Dudley, and either Hurn or RTCM; and that claim 24 would have been obvious in light of Fukushima, Wang, and Paul and either Hurn or RTCM, we affirm.

COSTS

No costs.

AFFIRMED

United States Court of Appeals for the Federal Circuit

02-1048
(Serial No. 08/926,293)

IN RE CHARLES D. HUSTON and DARRYL J. CORNISH

PROST, Circuit Judge, dissenting-in-part.

I respectfully dissent from that part of the majority opinion affirming the Board's rejection of claim 1 as unpatentable under 35 U.S.C. § 103(a). The majority concludes that substantial evidence supports the Board's determination that sufficient motivation existed to combine Dudley with a GPS system on a golf course, stating, "this is a situation where the Board's 'path may reasonably be discerned.'" Ante at 21 (quoting Colo. Interstate Gas Co. v. FPC, 324 U.S. 581, 595 (1945)). Rather than discerning the Board's path, however, I respectfully submit that the majority has charted an analytical course of its own. Because "we may not supply a reasoned basis for the agency's action that the agency itself has not given," Bowman Transp., Inc. v. Arkansas-Best Freight Sys., Inc., 419 U.S. 281, 285-86 (1974) (citing SEC v. Chenery Corp., 332 U.S. 194, 196 (1947)), I dissent. I would remand that portion of the Board's decision holding claim 1 of the '293 application unpatentable as

obvious so that the Board could fully set forth the reasons why one of ordinary skill in the art would have been motivated to select and combine the relevant prior art references.

The Board sustained the examiner's rejection of claim 1 as obvious on two specific, alternative grounds. Under both of these stated rationales, the Board concluded that the combination of Fukushima and Wang taught the use of a GPS system to determine the location of a receiver on a golf course. Ex parte Huston, No. 00-0947, slip op. 14, 26 (Bd. Pat. App. & Int. July 21, 2001). The Board then cited Dudley and, alternatively, Paul or Dimitriadis as teaching the display of advertising messages based on the receiver's position. Id. The Board found the motivation to combine these two sets of references in the prior art itself. According to the Board, "the combined teachings of Wang, Fukushima and Dudley would have made it obvious at the time the invention was made to a person having ordinary skill in the art" to (1) replace Wang's radiolocation system with GPS, because Fukushima taught the advantages of GPS's simplified, inexpensive navigation system, id. at 16-17; and (2) display advertising messages to a golfer on the course based on the position of the receiver, because Dudley taught "the self-evident advantages" thereof, id. at 17. Similarly, the Board found appellants' argument that insufficient motivation existed to combine Fukushima, Wang, and either Paul or Dimitriadis "unpersuasive for the reasons expressed above in our discussion of" the examiner's rejection under Wang, Fukushima, and Dudley. Id. at 26-27. Additionally, the Board noted that Paul specifically taught the broadcasting of advertisements to golf carts, id. at 27.

The majority does not affirm the Board on either of these two grounds. Instead, it concludes that "Paul provides the motivation to substitute a GPS system for the radio system of Dudley." The majority concedes that the Board never "cite[d] the Paul reference for this purpose," and the majority's sole support for its conclusion is a passage from the Paul reference that does not appear in the Board's opinion. Ante at 21. Nevertheless, the majority maintains that its opinion does nothing more than "discer[n]" the Board's "cryptic" conclusions, id. at 20-21. With all due respect, I cannot agree that the Board's conclusions as to the combination of Paul and Dudley are "cryptic"—they are nonexistent. As this court held in In re Sang-Su Lee, 277 F.3d 1338, 1345-46, 61 USPQ2d 1430, 1435 (Fed. Cir. 2002), "review of administrative decisions must be made on the grounds relied on by the agency. 'If those grounds are inadequate or improper, the court is powerless to affirm the administrative action by

substituting what it considers to be a more adequate or proper basis.'" Id. (quoting SEC v. Chenery Corp., 332 U.S. 194, 196 (1947)). Where, as here, the Board's stated grounds for affirming the examiner's rejection of claim 1 as unpatentable are clearly insufficient, this court, in my view, is compelled to remand.

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[1] Both the appellant and the Board erroneously cited the '093 patent, rather than the '368 application, when discussing whether the '293 application should benefit from the December 10, 1991, filing date. See 35 U.S.C. § 120 (2000) (priority for benefit of filing date derives from earlier filed application). Because there is no material discrepancy between the patent and the application, however, there is no need to remand to the PTO.

[2] Section 102(e) provides: "A person shall be entitled to a patent unless—(e) the invention was described in—(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent . . . ." 35 U.S.C. § 102(e) (2000).

[3] Section 120 provides:

> An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States . . . which is filed by an inventor or inventors named in the previous application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application . . . .

35 U.S.C. § 120 (2000).

[4] In filing an appeal to the Board, an applicant must group the claims according to the arguments to be presented, 37 C.F.R. § 1.192(c)(7) (2002), or argue the patentability of each claim separately. Here, appellants did not separately argue these claims.

[5] Horne made additional references to December 1991: "The spread spectrum code modulation communication technique used in Wang was known long before December 1991 and was simply one available technique for multiple access communications." Horne Decl. ¶ 10 (emphasis added). "The structure of GPS transmissions and the use of GPS as a position-fixing system were known long before December 1991 and were also well-known as of August 1990 when Wang was filed with the U.S. Patent Office." Horne Decl. ¶ 12 (emphasis added). "In December 1991, as represented by Wang and Fukushima, GPS-based positioning systems, ground-based positioning systems, and direct sequence spread spectrum code modulated communication protocols were all known." Horne

Decl. ¶ 14 (emphasis added).

[6] See Graham v. John Deere Co., 383 U.S. 1, 17 (1966) (setting out the central factors relevant to an obviousness inquiry).

[7] Appellants admit that Paul discloses all of the claimed features of the invention in claim 1, with the exception of positional advertising: "The Board's reading of Paul is essentially correct, except for its characterization of Paul as 'prior art.' . . . [T]he parent '093 patent discloses the essential features of Paul discussed by the Board except for the specific broadcast messages." (Appellants' Br. at 41.)

[8] We also find no error in the Board's determination of the level of ordinary skill in the art. Appellants contend that the Board erred by not more precisely identifying the level of ordinary skill in the art, and argue that the Board should have found a person with ordinary skill to be "a golfer, golf professional and/or golf course manager." (Appellants' Br. at 37.) But appellants have not shown how a different, more precise definition of the pertinent art would have changed the result.

[9] The dissent suggests that the majority opinion relies on a combination of references different from the combination relied upon by the Board. That is not correct. We sustain the Board based on its combination of the Wang and Fukushima references together with Dudley. We rely on the Paul reference (cited by the Board itself as the "closest prior art," Huston, slip op. at 22 n.6) for only two purposes, first, to reject appellant's contention that the Board could not properly combine Wang and Fukushima to find the use of GPS on a golf course obvious (since Paul itself demonstrates that very combination as noted by the Board, Huston, slip op. at 22-23), i.e., in rebuttal of an argument by appellant concerning the obviousness of a previously cited combination of reference. Second, we cite Paul as a source of motivation to combine Wang, Fukushima, and Dudley. The Board's cryptic finding of a motivation to combine may be affirmed because it was supported in the record, even though the record reference was not quoted, just as a district court's factual finding may be sustained if supported by record evidence not specifically cited by the district court, see generally Applewood Landscape & Nursery v. Hollingsworth, 884 F.2d 1502 (1st Cir. 1989) (citing a series of cases holding that "[a]s long as such 'brief' and 'pertinent' findings are made and 'the record as a whole supports the district court's findings of fact,' we can affirm its result.").